ENGINEERING NEWS-RECORD

Army Engineers begin first cantonment demolition at Camp Hale with prisoners-of-war.

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The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • AUGUST 2, 1945 • VOLUME 135 • NUMBER 5

Empire State Bldg. intact after bomber hits 79th floor

Only minor beams bent as B-25, lost in fog, strikes world's tallest building—Major damage to elevators

Structural damage that can only be classed as slight resulted when an Army B-25, Mitchell bomber, lost in a fog crashed into the center of the north side of the 102-story Empire State Building in New York City at the 78th and 79th floor level at 9:50 a.m. Saturday, July 28. The frame of the building was not impaired despite the fact that the bomber, weighing perhaps 10 tons and cruising at an estimated 250 mph., struck almost on a vertical column. Structural damage appears to be limited to two spandrel beams at the 79th floor level.

Three in the plane and ten persons in the building were killed as parts of the bomber smashed into offices while fire from the plane's high-octane gasoline burned everything before it in the highest building fire on record. The gasoline fire is believed to have been responsible for many of the deaths in the building but apparently did not damage the steel. Only in locations where fire protection of the steel frame was evidently knocked off by flying parts are beams exposed and here there is no visible evidence of damaging heat. The 8 in. water lines for fire control in the building were not damaged and firemen had the fire completely out in 40 min.

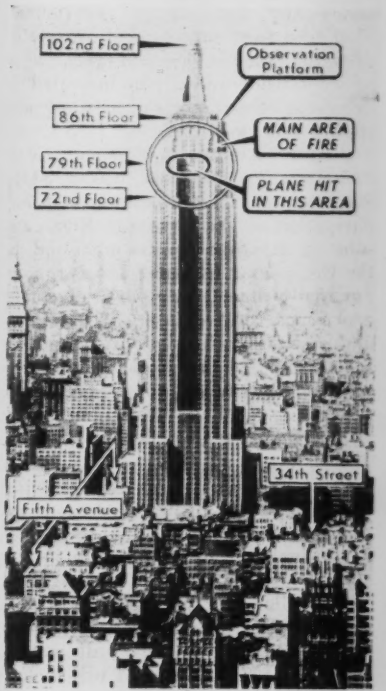
The bomber struck almost squarely on a vertical column of the building but at an angle as the pilot apparently tried to climb and veer off. The right motor and the fuselage passed on one side of the column and the other motor on the opposite side.

The right motor struck at the 79th floor level tearing out a 10-in. beam that supported the exterior wall and bending back about 18 in. a 15-in. spandrel beam, spanning 19 ft., that carried part of the floor slab.

The right motor tore loose and crashed into the elevator shaft taking out cables and framing as it fell to the bottom of the shaft, crashing through an unoccupied car near the bottom. Flying debris weakened the cables and tore out the automatic safety devices on a car that apparently was passing as the plane struck. The cables snapped and the car fell from some point below the 80th floor but the lone occupant, a woman operator, survived but with possible serious injuries.

The left engine of the plane did little

(Continued on page 2)



Press Association Photo.

Structural damage from B-25 hitting the Empire State Building at the 913 ft. level was confined to tearing out the two horizontal beams shown. The vertical column on which the blow centered, appears to be undamaged.

N. Y. Herald Tribune Photo.

Postwar construction spending mounts

The snowballing total of postwar construction work planned by governmental agencies throughout the United States was indicated this week in reports of a series of new proposed projects which alone will represent a total cost of nearly $1 billion.

The reports were only a part of the week's activities by cities, counties, states and the federal government. That even more such projects, involving probably greater expenditures, were under consideration, was indicated in numerous other reports of meetings and studies now under way.

Biggest single development mentioned during the week was a $446,000,000 program for development and navigation of the Arkansas River and some of its tributaries. Submitted by the U. S. Army Engineers, the proposal apparently has the approval of official spokesmen for the states of Oklahoma and Arkansas. The program contemplates making the Arkansas River a navigable stream as far as Tulsa, and providing complete protection to the river's valley against floods.

Willamette River plans

The Willamette River in Oregon, and plans to control its floodwaters, led off a multi-million dollar program in that state.

As outlined by Col. Ralph A. Tudor, Portland District Engineer, Willamette River flood control work will cost an estimated $97 million, and will include work on Dorena Dam, on Row River; Detroit Dam on North Santiam River, Meridian Dam, on the middle fork of the Willamette; Quartz Creek Dam on McKenzie River, and Sweet Home Dam.

Other work in Oregon includes state-sponsored projects aggregating more than $75 million covering activities of the State Board of Control, Board of Higher Education, Forestry Division, Game Commission and highway departments. Oregon city and county projects totaling $98,688,895 and school and miscellaneous district projects calling for expenditure of $12,287,411 also were included.

Ohio public works

Several Ohio counties have amassed large amounts of money for postwar public improvements, much of the surplus coming from gasoline and auto license taxes. With these funds on hand, Cuyahoga County (Cleveland) has announced it has approximately $6 million for postwar expenditure, and Lucas County (Toledo) has a $2 million balance, most of which is earmarked for road funds.

Hamilton County and the city of Cincinnati, in anticipation of postwar materials releases, have authorized issuance of $41 million in bonds to finance new schools, street and sewer improvements, playgrounds and public buildings. Franklin County (Columbus) has already earmarked $1,246,400 in automobile and gasoline tax funds for highway work.

The Arizona State Highway Commission recently adopted a $15,716,000 postwar roadbuilding budget containing funds for $11,849,000 worth of road construction projects. The state envisions a system of federal interstate highways which would include: extension of U. S. Highway 66 across the northern part of the state; a southern route from Ehrenberg to Phoenix over U. S. Highway 60; to Tucson over U. S. Highway 89; to the New Mexico state line at Pass over State Highway 86; and a north-south road joining the two between Phoenix and Williams. Total length of these roads would be 920 mi.

Other markers of governmental interest in postwar construction projects include the following:

Announcement by Col. Rufus W. Putnam, Los Angeles district engineer, of a request for an $8 million appropriation for flood control on the Lytle-Cajon Creek near San Bernardino, California.

Empire State undamaged by plane

(*Continued from First Page*)

damage coming to rest in the center of the 78th floor. Part of the fuselage skidded through a cross corridor and out the opposite side of the building. It fell on a 13th floor penthouse studio on a building across the street where it is claimed to have done extensive damage to art work.

Nine of those killed in the building and most of the 26 injured were on the 79th floor, the 78th floor being unoccupied. The floors immediately above are largely untenanted. Some fifty people were in the building observatory section, from the 86th to the 102nd floor, despite the fog and poor visibility, but none was injured.

Due to the fact that most New York offices and commercial establishments are closed on Saturday during July and August, few people were in the building or on the streets below, accounting to some extent for the low casualty list. Set-backs of the building caught much of the falling glass and debris.

All services in the building as high as the 67th floor were back in operation by Monday, and four of the ten elevators providing express service to the 67th to 80th floors are available for service. Above this level elevators do not operate to the street but passengers change at the 80th floor. One of these upper elevators was damaged. The observation areas have suffered only smoke damage and some broken glass. It is expected that the tower, which normally has a $12,000 weekly revenue, will soon be reopened.

Repairs on the building already have started. One of the first operations will be to entirely expose all of the steel frame in the area of the crash for a careful examination of all connections and members. Repairs will be made by Starrett Bros. & Eken, the original builders, while Shreve, Lamb & Harmon will serve as architects. Edward Associates, successors to H. G. Balcom, engineer for the building, are consultants.

Preliminary estimates of the damage to the building and loss of rentals run from $500,000 to $600,000. The Army is accepting claims for damage but has not made commitments on actual responsibility. The cost of structural repairs is only an infinitesimal portion of this amount, most of which will go for rehabilitation of the four high-speed elevators, which are a total loss. Much architectural repair is necessary to replace stone facing, windows and the like, damaged by the impact and fire.

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Marble Gorge route seen best Irrigation plan for Arizona

Bridge Canyon route next best plan, while Parker pumping plan should be eliminated, Senate committee reports.

Of three major plans now under consideration to permit the State of Arizona to use its share of Colorado River water, the Marble Gorge route appears to offer greatest permanent advantages, the Senate Committee on Irrigation and Reclamation reported July 28. Chosen after extensive hearings, this route was considered best because it "is reasonably free from earthquakes, which modifies the danger of loss of tunnel, it's lower annual cost over a period of half a century or more, and relatively lower loss of water."

The committee held the hearings because any of the proposed plans would require special federal legislation. The three general proposals being considered were described in *Engineering News-Record* May 24, 1945, vol. p. 742. The plans are as follows:

1. Marble Gorge route—water diverted at a high dam in Marble Gorge near the Utah line and carried through a tunnel of 3,000 cfs. capacity for a distance of 139 miles to a point high up in the Verde River valley. From there it would be run through a series of power plants before reaching irrigated areas around Phoenix. Exclusive of the Colorado river work, this project would cost $487,000,000.

2. Bridge Canyon route—a dam somewhat higher than Boulder Dam, in Bridge Canyon near the upper end of Lake Mead, a 72-mile tunnel to Sacramento Wash, a canal of 3000 cfs. capacity, 82 miles to the proposed Cunningham Reservoir, regulating reservoir, and a canal of 4,000 cfs. capacity a distance of 180 miles to Granite Reef Dam on the Salt River. Cost—$325,000,000, exclusive of dam and power facilities on the Colorado.

3. Parker pumping project—a pumping plant of 3,000 cfs. capacity to lift water from the lake behind Parker Dam a vertical distance of 1,040 ft. delivering it to Cunningham Reservoir. This project, including the canal beyond Cunningham Reservoir would cost $134,000,000.

After much study of data submitted by E. B. Debler, who at the time of the hearings was director of project planning for the Bureau of Reclamation, and from others, the committee found the Marble Gorge route offered most advantages. However, it emphasized the fact that insufficient engineering work had been done to permit any final conclusion.

Regarding the Bridge Canyon route, the committee said: "based on the testimony offered to the sub-committee and such data as has been made available, the Bridge Canyon plan appears as second in desirability and should be given important consideration only if the Marble Gorge route is not found to be feasible, and engineering data substantiates the Bridge Canyon plan."

The Parker route was considered to have two serious disadvantages: it would require perpetual pumping; and the plan would result in the greatest evaporation of water. Such loss of water is one of the major criteria by which the most satisfactory route will be selected.

The committee recommended five-step program of action: 1. That all possible speed be exercised toward completion of engineering data and plans leading to a final decision on the method of bringing Colorado River water into central Arizona, these plans taking into consideration such factors as irrigation costs per acre-foot, amounts of new lands which may be irrigated, long-time costs of the plan selected, amount of water loss, and hydro-electric power.

2. That surveys be completed as rapidly as possible to determine the feasibility and costs of irrigating and placing new Arizona lands into cultivation.

3. That the federal government undertake to develop Arizona sources for such additional sources of water in Arizona as are found feasible; and for the various irrigation projects, to contract directly with the federal government for such water on an acre-foot basis.

4. That surveys be completed as rapidly as possible of all of remaining smaller Arizona irrigation projects.

5. That the enactment of legislation be secured to provide for preferential rights to veterans of World War II for purchase by means of federal government low-cost loans of lands suitable for farming; right of entry to government lands on the same basis extended to World War I veterans, and federal aid in the development of lands granted to or purchased by veterans of the current war.

Completion of the work outlined in the second step was considered essential in order that state and federal authorities may have necessary data to make the proper selection of lands for irrigation available to Arizona under its contract with the Department of Interior.

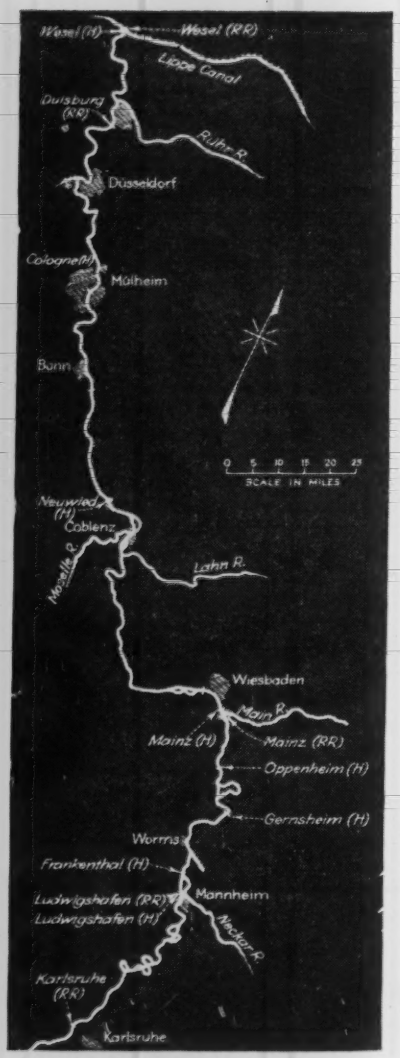
Army ski-training camp being demolished

The Army's Camp Hale, Colo., at Elev. 9,500 is being dismantled by German prisoner-of-war labor as it is no longer needed for training of mountain ski troops. This is the first of the big army camps in the U. S. where demolition work has been started.

Some of the 1,070 buildings are being taken down in sections for re-erection of other army posts, and everything else at the site is being salvaged, sorted and transferred.

More than 2,500 prisoners and 350 civilian supervisors and equipment operators are employed on the work under direction of the Missouri River Division, Denver District of the U. S. Army Engineers. An article describing the work in detail is scheduled for an early issue.

Fourteen U.S.-Built Fixed Bridges Cross the Rhine



Location of fixed bridges across the Rhine River built by construction units of the U. S. Army Engineers.

From Wesel on the north to Karlsruhe on the south, American Engineers built fourteen fixed bridges over the Rhine River. Characterized as "semi-permanent", they are of deck girder or military truss type supported on pile bents. Five of them are railroad structures, while the other nine provide highway crossings of the river. In addition to these bridges, there were at one time more than three dozen floating bridges—treadways, heavy pontoon, Bailey pontoon and Baileys on Rhine River barges—over the river along the then American-occupied sector, and some of these are still in service. Significant facts about each of the semi-permanent bridges follow.

Wesel, railroad bridge. Named the Major Robert Gouldin Bridge. Consists of 1,750 ft. of trestling and 10,850 ft. of graded approaches. Made up of one 92-ft. and twenty-two 75-ft. I-beam spans supported by triple bents containing 24 timber piles (32 piles in navigation span piers), 50 to 70 ft. long, driven until they had an unsupported length of 32 ft. Towers of prefabricated light steel trestling set on top of the piles raise deck level to 71 ft. above the river bottom. Bridge was built in 10 days, 5 hr.

Wesel, highway bridge. Named the Roosevelt Bridge. Consists of 1,790 ft. of trestling and 1,100 ft. of graded approaches. Made up of one 85-ft. and thirty-two 53-ft. I-beam spans, carried on double bents containing 16 timber piles 50 to 70 ft. long (18 piles in navigation span piers). Deck, of two layers of 3-in. planking, is 22 ft. wide.

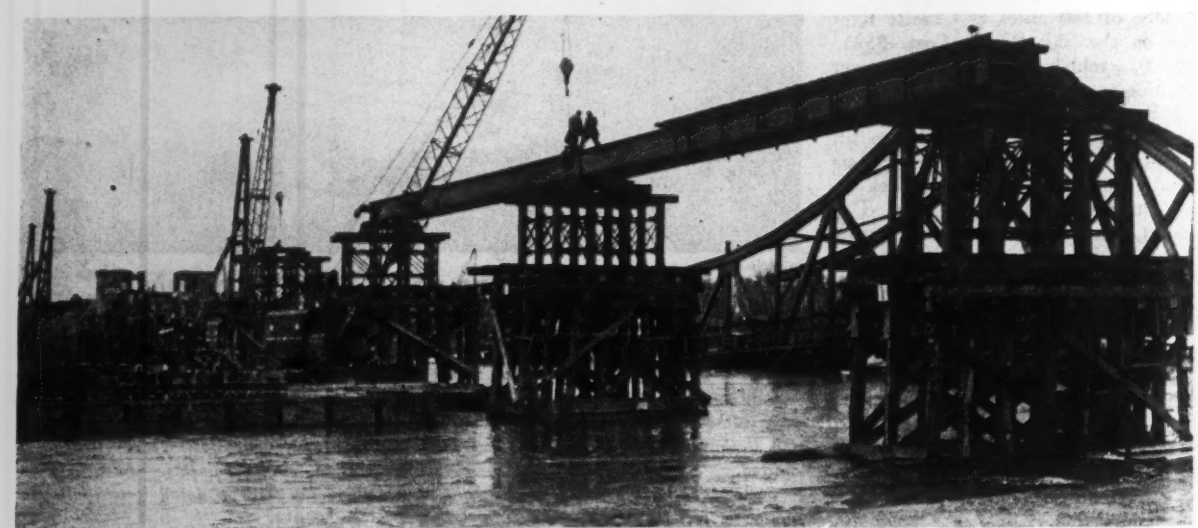
Duisburg, railroad bridge. Named the Victory Bridge. Consists of 2,813 ft. of trestling and 2,000 ft. of graded approaches. Made up of one 25-ft., one 55-ft., one 88-ft. and twenty-one 75-ft. I-beam spans plus fourteen 75-ft. truss spans of Unit Construction Railroad bridge (UCRB) type. Three types of piles are used—timber, steel H's and hollow steel sections, all surmounted by the light steel trestling piers. This was the bridge built in the record time of 6 days, 15 hr.

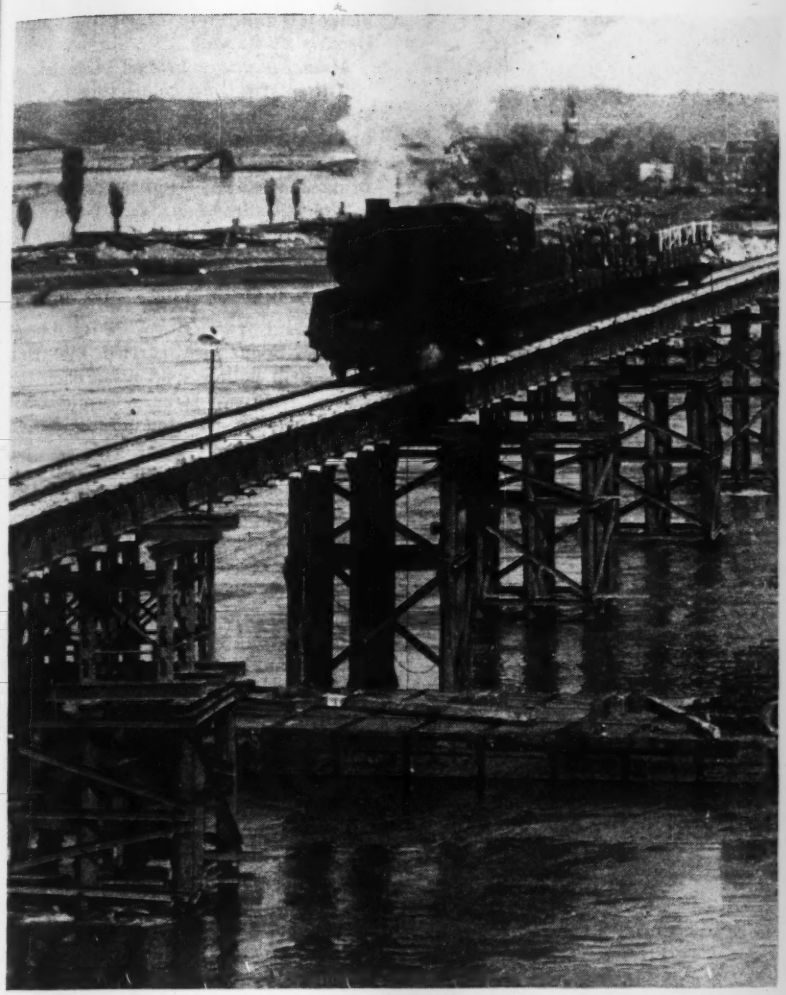
Cologne, highway bridge. Consists of 1,206 ft. of trestling and 300 ft. of graded approaches. Made up of one 85-ft., seven 20-ft. and nineteen 45-ft. I-beam spans supported on double bents of 16 timber piles (24 for navigation spans). Deck is 24 ft. wide, of two layers of 3-in. planking.

Neuwied, highway bridge. Consists of 1,555 ft. of trestling, made up of one 90-ft., thirteen 21-ft. and seventeen 45-ft. I-beam spans on timber piles. Nine piles in a single bent for the 21-ft. spans, 18 piles in a double bent for the 45-ft. spans and 27 piles in a triple

(*Text continued on page 6*)

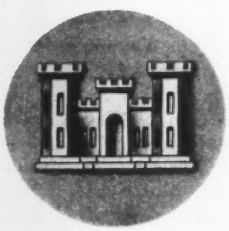
Crawler crane on pontoon barge sets a 75-ft. girder span in the Wesel railroad bridge on piers of prefabricated light steel trestling resting on timber pile bents. The girders are "meter beams", 39.37 in. deep, two under each rail.



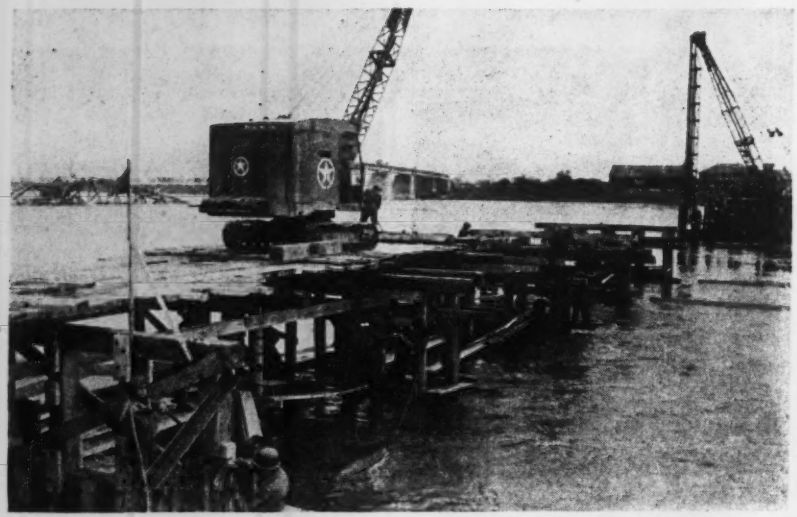


Meter beam railroad bridge (shown above) at Mainz is founded on hollow steel pile towers surmounted by pier units of prefabricated light steel trestling.

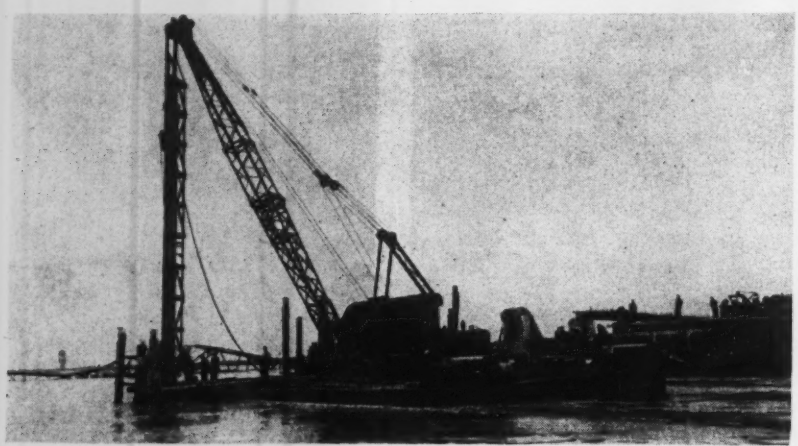
Cutting off tops of hollow steel piles in Mainz railroad bridge with oxy-acetylene torches.



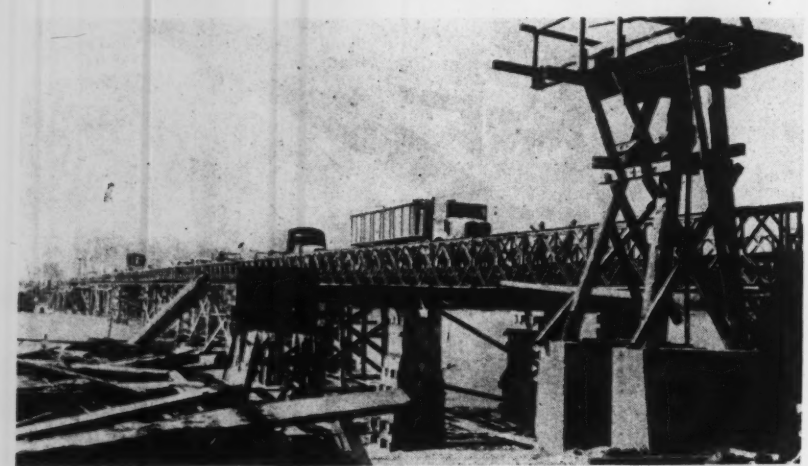
Crane (at right) nicknamed "Moby Dick", built by American Engineers to set meter beams in the Mainz railroad bridge. The crane boom is itself a meter beam laid on the flat.



Installing bracing, caps and decking on the pile bents of the Gernsheim highway bridge. Wreckage of original bridge is in background.



Driving piles for Gernsheim highway bridge with hanging leads from a crawler crane on a pontoon barge of "Rhino ferry" type. Note two outboard motors for propulsion of the barge.



Bailey bridge trusses supported by timber pile bents provide a crossing for one-way highway traffic at Frankenthal.

bent for the 90-ft. navigation span. Deck is 24 ft. wide.

Mainz, highway bridge. Consists of 900 ft. of trestling connecting one old span at either end of the existing bridge. Piers are double timber bents on concrete sills set on debris of old bridge. Roadway width is 27 ft.

Mainz, railroad bridge. Named the Franklin Delano Roosevelt Memorial Bridge. Consists of 2,215 ft. of trestling and 672 ft. of graded approaches. Made up of one 89-ft., two 37-ft., six 60-ft. and twenty-two 75-ft. I-beam spans. Spans are carried on triple bents of 9 hollow steel piles, each fabricated from two 14-in. sheetpiles 67 ft. long; 12 piles are used for the navigation span piers. Light steel trestling on top of piles raise deck level to 52 ft. above bottom of river. The bridge was built in 9 days, 22 hr.

Oppenheim, highway bridge. Named President Roosevelt Memorial Bridge. A timber pile trestle of undisclosed length supporting a 24-ft. roadway.

Gernsheim, highway bridge. Named the Dunbar Bridge. Made up of 34 I-beam spans of 30 ft. and 8 prefabricated truss spans of 32 ft. Piers, 4x20 ft. in plan, consist of ten timber piles in double bents. Deck is 22 ft.

Frankenthal, highway bridge. Consists of 900 ft. of trestling in which standard Bailey bridge trusses are set on four-pile bents except for the navigation span, where double bents of eight piles are used. Length of spans not given, but roadway is 10 ft. wide.

Ludwigshaven, highway bridge. Named the Gar Davidson Bridge. Consists of 846 ft. of trestling. Made up of 28 I-beam spans of 30 ft. and 3 prefabricated truss spans of 32 ft., carried on piers 4x20 ft. in plan, containing 10 timber piles each. Deck is 22 ft. wide.

Ludwigshaven, railroad bridge. Named the Ernie Pyle Memorial Bridge. Consists of 937 ft. of trestling made up of nine 26-ft., sixteen 28-ft. and three 85-ft. I-beam spans carried on piers containing 14 timber piles each except for the long span, where 21 piles are used in a pier 8x18 ft. in plan.

Karlsruhe, railroad bridge. Named the M/Sgt. Thomas J. Dooley Bridge. Consists of 853 ft. of trestling, made up of one 75-ft. and twelve 65-ft. I-beam spans, carried by piers containing 18 timber piles each.

In all but one of the bridges, steel angle-and-channel cross bracing is used between the beams, all connections being welded. The one exception is the Karlsruhe railroad bridge where the cross bracing consists of timber chocks or frames against which the bridge girders are held by encircling yokes of steel channels and rods.

C.E.D. committee sponsors postwar survey in 4,000 communities

Action and Advisory Committee on Construction expanded to include architects and chemical, electrical and mechanical engineers

Meeting for the first time on July 20 in New York, an enlarged Action and Advisory Committee on Construction of the Committee for Economic Development laid plans for enlisting the services of all members of the six participating professional societies in hastening compilation of authoritative data on the status of postwar construction projects in the local communities of the United States. A construction survey in each community is intended to bring to light the current facts with respect to blueprinting of both privately financed and publicly financed postwar projects, thus providing a sound guide for local action in completing a construction program to fit community needs.

Committee expanded

At the New York meeting, the American Institute of Architects, the American Institute of Chemical Engineers, the American Institute of Electrical Engineers, the American Society of Mechanical Engineers and the American Institute of Mining and Metallurgical Engineers joined formally with the American Society of Civil Engineers to enlarge the C.E.D. Committee on Construction and increase its national effectiveness. Until recently, the C.E.D. committee had been made up entirely of members as the A.S.C.E. Committee on Postwar Construction. These men will continue to represent the A.S.C.E. on the enlarged committee, Malcolm Pirnie, continuing as chairman.

To reach 4,000 communities

The survey is being sponsored in some 4,000 communities served by nearly 3,000 C.E.D. local organizations. Pilot surveys already are under way in 60 test communities.

In each community, the postwar construction survey is to be given professional guidance and direction through local cooperation by resident members of the six societies included in the C.E.D. construction committee.

According to plans drawn up at the meeting, each of the engineering and architectural societies will advise its membership to cooperate with local C.E.D. community organizations in furthering local construction surveys and postwar programs. In most places, this participation will mean active membership by one or more of the local professional men on the construction committee of the C.E.D. community organization.

Official representatives appointed by the five added professional societies to the C.E.D. construction committee are: Arthur C. Holden, A.I.A.; C. R. Downs, A.I.C.E.; Gano Dunn, A.I.E.E.; Robert S. Hackett, A.S.M.E.; E. A. Prentis, Jr., A.I.M.M.E.

With the cooperation of the five other professional societies, the A.S.C.E. Committee on Postwar Construction plans to continue and intensify its campaign to activate postwar construction programs in local communities as a safeguard against postwar unemployment and work-relief measures of the WPA type. G. Donald Kennedy is chairman of the Committee on Postwar Construction, and Oscar L. King is director of the committee's field development work.

• •

Congress asked for veterans housing fund

An appropriation of $100,000,000 to provide in congested areas adjacent to universities and colleges housing for World War II veterans regularly enrolled as students at such schools is provided in a bill (H. R. 3853) introduced in Congress July 19.

First unit of Deschutes Canal nears completion

Water was allowed to flow for the first time into the intake end of the Bureau of Reclamation's 65-mile-long Deschutes Canal in central Oregon in June, when the headgate was raised for a few hours to wash mud from a fish screen, preparatory to priming and puddling the first 25 miles of canal. The first section of the canal, with a capacity of 1,000 cfs. is expected to be in use this fall, irrigating 5,000 acres out of an ultimate 50,000 acres of arid and semiarid land near Madras.

In the background are the partly completed revolving fish screens that can be lowered into operating position behind the trashrack structure by means of an overhead hoist. About 15 ft. in diameter and motor-driven, the screens will be revolved at 10 ft. per min. at the circumference.

Units of the project still to be completed and now under construction include building of additional main canal, lining of two tunnels totaling 6,900 ft. and excavation of laterals and sublaterals.

Truck road to all floors planned for 13-story industrial building

Manhattan building will have 32-ft. wide, ¾-mile long roadway in center for truck and trailer access to each floor

Tishman Realty & Construction Co. will build a $15,000,000, 13-story building on a 440x405 ft. plot at Varick and Hudson Streets in downtown Manhattan as soon as war restrictions are eased. An unusual feature of the structure is an in-the-building roadway, 32 ft. wide from the street to the top floor, adequate to accommodate two-way traffic of the largest trucks and trailers permitted on New York's highways. The roadway spirals on a 6½ percent slope around a central area nearly 200 ft. across with space on each floor for truck platforms and temporary parking of as many as 20 trailer trucks.

To be known as the Interstate Commerce Center the reinforced-concrete structure will offer about four acres of space on each floor and is designed to carry the maximum loads of any industry. It is expected to attract manufacturing and distribution organizations that require large floor areas close to the supplies and markets of a metropolitan area.

The roadway and truck space take up 21 percent of the floor area compared to an estimated 12 percent for elevators and circulating corridors. The builders believe, however, that tenants will be more than compensated for the loss of space by the greater efficiency of the delivery service. The drive-in and -up feature is expected to eliminate congestion on city streets from trucks waiting to get into elevator or to transfer platforms.

Around the truck space are passenger and freight elevators planned for individual operation to each floor. Outside this central area a 100-ft. wide space is open around the 1,600-ft. perimeter of the building for production line manufacturing or for distribution use. Bays in this area are 21 ft. each way.

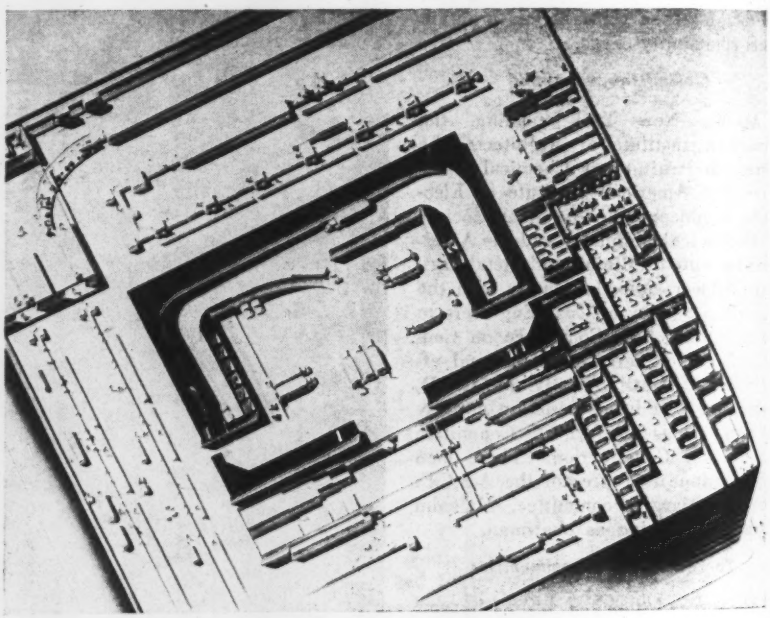
The Interstate Commerce Center will be exceeded in size, among commercial structures, only by Chicago's Merchandise Mart. It will be built on an unoccupied four-block site, the old St. Johns Park Terminal of the New York Central Railroad, which has not been in use since 1936. The 13-story concrete-frame building will rest on piles, probably some 25 ft. long. Construction will be done by Tishman Realty & Construction Co. with component parts of the work contracted to several firms. Charles M. Chuckrow will direct the construction for the realty firm. Victor Mayper of New York is the engineer.

U. S. Chamber adopts construction policies

Measures to help the construction industry meet the difficult problems ahead of it are proposed in a set of policies recently adopted by the membership of the Chamber of Commerce of the United States.

Among its declarations in matters affecting construction, the Chamber urges modernization of building codes through acceptance of standard code provisions; local apprentice training programs in the skilled construction trades; redevelopment of slum and blighted urban areas through private activity, and state leadership in encouraging advance blueprinting and financing of public works, with expenditures for the needed improvements over a period of years.

The declarations urge Congress to take steps now to adopt fiscal policies that will not unduly hamper state and local governments in public works.



The 13-story Interstate Commerce Center planned for downtown New York will have a 32-ft. wide truck roadway to the top to permit hauling direct to any floor. Trucks will circle an interior loading area that provides parking place for 20 trailer vehicles on each floor. Maximum grade on the ramp is 6½ percent, which trucks are expected to climb at 10 mph.

Inter-American Highway fostered as part of "Good Neighbor Policy"

State Department urged start at work to stabilize Central American economy despite decline in military value of road

Stabilization of the economy of the six Central American republics as part of this country's "Good Neighbor Policy" was one of the chief reasons why the U. S. Army Engineers were instructed to proceed with construction of the Inter-American Highway, members of the Mead Committee of the Senate were told July 26. Although this aim has received little, if any, official mention in the past, correspondence made available at the hearing revealed that with some federal officials this purpose bore more weight than that of providing a land connection to the Panama Canal, which was the major reason generally cited in the past for doing the work.

The importance of the economic factor was stressed at the hearing by Lieut. Gen. Leroy Lutes, Chief of Staff, Army Service Forces. To support his statements, General Lutes supplied copies of a letter written July 16, 1941, by Gen. G. C. Marshall, Chief of Staff, to the chairman of the House Foreign Relations Committee when closed hearings were being held on the proposal to start the pioneer road.

Favored by State Department

At that time General Marshall wrote: —"As stated by Mr. Hull in his letter to the President dated April 28, 1941, this highway would be of importance to national defense in that it would assist in maintaining the political and economic stability of Central American republics. By improving communications within those countries the maintenance of order therein would be facilitated. The friendly attitude toward the United States of all countries in the Western Hemisphere is of great value to the United States.

"The construction of this Inter-American Highway cannot be supported by the War Department purely on the basis of its military importance as a supply or transit route in time of war for our garrison in Panama, for example. The value of the route to the national defense would result from its great influence on the development and maintenance of more friendly relations with the countries concerned."

Sumner Welles, when Under Secretary of State, also urged start of the Army Engineer program, General Lutes revealed. In a letter to Secretary of War Stimson under date of Aug. 1, 1942, Mr. Welles expressed a strong desire for the War Department to build the pioneer road. In that letter he stated: "The deepening economic crisis in Central America, the growing unemployment, particularly in the banana producing regions, and the increasing difficulties of transportation all make the early initiation of work on this project highly desirable from every viewpoint. * * * In approaching the Central American countries with regard to the pioneer road, the general rather than the military value of the highway was stressed; the very wholehearted collaboration which they have given may perhaps be ascribed in part to this. It would therefore seem better not to emphasize at this date the military character of the road."

Because of the international aspect of the project, construction of the highway was continued for several weeks after the project had lost its military importance. Operations in some countries were continued until Oct. 31, 1943, but as early as Aug. 21 of that year Lt. Gen. Joseph T. McNarney, Deputy Chief of Staff, had written the commanding general, Army Service Forces, that the job had lost its military importance. He stated, "The completion of the Pan American Highway [Inter-American Highway], even though it be accomplished within the next year, which is doubtful, will not assist in the conduct of the war. * * * Moreover, if the project is continued as a military necessity, with an unchecked mounting expenditure of military funds, the War Department is liable to strong and justifiable criticism by Congress."

As a result of General McNarney's report, letters were exchanged between the Chief of Engineers, the headquarters of the Army Service Forces, and the general staff of the War Department in which a desire to avoid international complications was expressed.

Investigation of the cost of building the highway was called for in Congress in June (*ENR* June 21, vol. p. 860); see also *ENR*, July 19, vol. p. 71.

Planning for low-cost housing in Canada

Canada's critical housing situation has been the subject of recent discussions at Ottawa between Finance Minister J. L. Ilsley and interested groups, notably a delegation from the Canadian Federation of Mayors and Municipalities, who stressed the need of immediate action on housing to Mr. Ilsley and a group of representatives of Canadian life insurance companies.

The latter were called to Ottawa by Mr. Ilsley who told them that if private enterprise, notably the life insurance companies, did not immediately take steps to enter the low-rental housing field, then the federal government would have to do so itself. Subsequently, a meeting of life insurance company representatives was held in Toronto, at which plans were discussed for a joint holding corporation backed by all the insurance companies through which a $50,000,000 low-rental housing program, to provide 10,000 low-cost houses in Canada could be carried out as soon as possible.

Shortage of materials and man-power have been obstacles to progress, but top priorities in both fields have been given to building projects by the National Selective Service and Wartime Prices and Trade Board organizations.

Veterans administration gets higher priority

The Veterans Administration has been placed on an equal basis with the military in the matter of preference ratings, the War Production Board announced July 16. Under a new amendment to WPB Directive 39 the Veterans Administration is permitted to assign preference ratings, including the MM (military) rating, to all of its procurement, including materials for maintenance, repair, and operating supplies for its establishments. The revised directive, WPB pointed out, will permit the assignment of MM ratings for all Veterans Administration construction projects approved by the board, and also for remodeling privately owned buildings that are to be leased to it for use as regional or branch offices after approval by WPB.

Under former orders the administration had an AA-3 rating on its hospital construction program, which extends through 1946, with the privilege of uprating seven and a half percent of this to AA-1 in the case of bottleneck items. It also had an AA-1 rating for maintenance, repair and operation under the controlled materials plan, but was otherwise unrated except by a special application to the War Production Board.

Construction Communiques

ENGINEERING NEWS FROM THE BATTLEFRONTS

Engineers who have Served in Three Theaters—The War Department has announced the participation in the Okinawa campaign of one of the first Army units to see combat action in the Mediterranean, European and the Pacific theaters. It is the First Engineer Special Brigade, a shore engineer command organization which began its career of D-Days on the beaches near Oran, North Africa, in November, 1942.

The First Brigade headquarters took over command responsibility for beach supply operations on Okinawa on April 1, having been shipped from Europe through the United States in February of this year.

Activated under the former Engineer Amphibian Command at Camp Edwards, Mass., in June, 1942, the brigade was headed overseas within one month. After the landings at Oran, the First was converted from an amphibian to a shore engineer organization and helped move the Seventh Army across the beaches at Gela, Sicily. In September, 1943, the brigade was attached to the Fifth Army for the Gulf of Salerno landings. Then on June 6, 1944 came the climax when the First Brigade formed the spearhead of the landings on Utah Beach in Normandy.

Making the Philippines a Fortress—"Army Engineers are playing a leading role in converting the Philippines into a 'British Isles of the Pacific' preparatory to a full scale offensive against the Japs", reports Lt. Col. L. C. Urquhart, Chief of the Engineering Division, Office of the Chief of Engineers, upon his return from an inspection of Army construction activities in the Pacific.

"The plains of Luzon are fast becoming the staging area for the routing of the Japs", added the Colonel, who consulted with Maj. Gen. Pat Casey, Chief Engineer to General MacArthur, and with Maj. Gen. Lief Sverdrup, Chief of Construction Services on the Islands.

"The Engineers are instructed to carry on only construction activities which contribute to the military effort", Colonel Urquhart continued. "However, with the responsibility of preparing a major part of all facilities required to handle the hundreds of thousands of troops and the millions of tons of equipment pouring in from the European Theater, this assignment becomes extremely broad. Engineering concerned with the health of the civil population becomes just as important as the laying of pipelines to fuel the planes, trucks and bulldozers that are carrying the war on Japan.

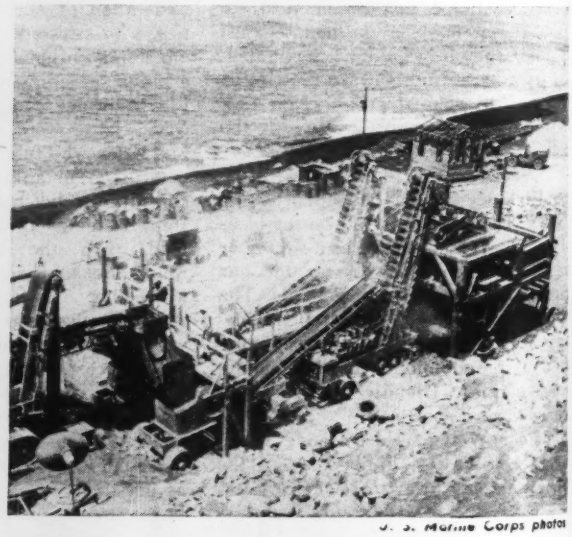
"One of the first of many important jobs to be done was the restoring of the port of Manila, which has been described as in worse condition than the ports of Naples and Cherbourg combined. The hulks of 500 wrecked ships littered the harbor when the city fell. While the Navy went to work on the harbor, Engineer Port Construction and Repair Groups tackled the port facilities.

"Only one pier was worth repairing; all others had to be completely rebuilt. Pier No. 7, of excellent modern construction, had three large holes several hundred feet apart blown in its deck. Access to one side was completely blocked by the wrecks of five Jap ships, with two of the ships superimposed on three which rested on the bottom of the harbor. One sunken hulk blocked the other side of the pier.

"Navy divers went to work on the sunken ships while the Engineers spanned the holes and reinforced the deck with Bailey bridge material. Within two weeks after the first American shipping entered Manila harbor berths capable of unloading Liberty ships were ready.

"All bridges over the Pasig River through the heart of Manila were destroyed. Over the wreckage of the Jones Bridge, Engineers placed two double-double Bailey bridges, each with 35-ton capacity, for the use of troops who cleared and occupied the remainder of the city.

"Most of the civilian hospitals were partially or completely destroyed. The Army was forced to repair or rebuild them to meet both civil and military needs. When the Army Medical Corps took over the famous Jockey Club race track, Engineers pitched in and helped to convert the grandstand into a 1500-bed temporary hospital."



U. S. Marine Corps photos

Plenty of "raw material" for a Seabee rock crusher on Iwo Jima

That plenty of rock for construction is available on Iwo Jima is demonstrated by these photographs showing the Seabees at work on that island base our Marines captured from the Japs at such high cost.

At the left is shown a bulldozer rolling rocks into position for a Seabee unit's rock crusher to produce gravel, and at right is the rock crushing plant at work.

MEN AT WORK

WELLINGTON DONALDSON, (right)—chief of the bureau of sewage disposal of the New York City Department of Public Works, is in a contemplative mood these days—probably because design plans for major additions to the city's already imposing list of treatment works are reaching the stage where contracts for construction will soon be advertised.

Preparation of plans for flood control dams in the Connecticut and Thames River basins found this group, comprising the Board of Consultants for the U. S. Engineer's Providence, R. I., District, on a field trip to proposed sites. Standing, from left to right, are: T. S. BURNS, chief of the district's engineering division; J. D. JUSTIN, consulting engineer of Philadelphia, Pa.; and W. H. McALPINE, chief civilian engineer of the Chief of Engineer's Office, U. S. Army. Bottom, left to right, are: E. L. WINSLOW, New England Division Office, Boston; W. F. UHL, consulting engineer, Boston; and F. E. FAHLQUIST, consulting geologist, Providence.

Below: A silted ditch along an outlying street in Elmira, N. Y., commands the attention of A. L. OPPENHEIM, right, city engineer, and JOHN H. FINNERTY, supt. of streets.

NELSON F. PITTS, right, city engineer of Syracuse, N. Y., talks over with P. W. KELLY, deputy city engineer, details of one of the many interesting jobs included in the "salt city's" $5,500,000 post-war construction program.

A problem of clearance occupies the attention of LEON H. CASS, city engineer of Ithaca, N. Y., and GEORGE D. CARPENTER, superintendent of the water and sewer departments as they discuss plans for alterations at the city's sewage treatment plant.

Cement firms accused of price conspiracy

The Department of Justice has charged The Cement Institute, Chicago, and 89 manufacturing companies with **conspiracy to fix and** maintain "unreasonable, identical and non-competitive prices" in the manufacture and sale of portland cement throughout the United States, in violation of the Sherman Anti-trust Act.

The complaint filed at Denver, Colo., on June 28, emphasizes that because cement is a heavy commodity a major factor of the total cost to the purchaser is the cost of transportation; it charges further that price competition in the cement industry has been completely eliminated through adoption of the so-called "multiple-basing-point system". Under this formula, it is alleged: (a) cement is sold on a delivered-price only and is shipped exclusively by rail; (b) certain mills are designated as "base" mills, and all other are non-base mills; (c) the delivered price for cement at any given location is determined by adding the mill price at the nearest "base" mill to the all-rail freight charges.

It is charged that manufacturers refuse to quote f.o.b. mill prices, refuse to ship by water or by truck, and refused to permit a buyer to take delivery in his own trucks at the mill unless the price to the purchaser includes the all-rail freight charge for the nearest "base" mill to the destination.

The suit seeks dissolution of the Cement Institute and a requirement that the cement mills quote prices and sell cement either f.o.b. mill or on a delivered-price basis, at the choice of the purchaser.

In July, 1943, the Federal Trade Commission, after six years of taking evidence, issued an order forbidding the use of the multiple-basing-point system and other practices similar to those covered by this complaint of the Department of Justice (*ENR* July 29, 1943, vol. p. 180). Before the order became effective, however, the 7th Circuit Court of Appeals in Chicago issued a stay that still stands.

It is believed that the U. S. Supreme Court's recent decision against the single-basing-point system used by the corn products industry stimulated this latest action by the Department of Justice.

Saginaw and Midland, Mich., have plans for a $7,400,000 Lake Huron water supply project. The joint water supply committee has ordered engineering and legal services costing $120,000, partially to be paid for by the state.

WASHINGTON HIGHLIGHTS

Soon after Congress returns from its recess the Senate will consider passage of the bill (S. 2) providing $500,000,000 of federal aid over a 5-yr. period for a national airport program, it was announced in the Senate July 20. The Senate Committee on Commerce early in May recommended passage of the bill, which was described in detail in *Engineering News-Record*, May 10, 1945, vol. p. 682.

The Home Builders' Association of Metropolitan Washington plans to create a building organization with a capital of $1,000,000 for the purpose of clearing slums in the District of Columbia area. The directors of the association have authorized the organization's slum clearance committee to proceed as soon as Congress creates a public agency to acquire the property on which the slums are situated. A project involving an expenditure of $80,000,000 to $96,000,000 is considered possible. The estimated number of units to be built total 24,000. N. C. Hines, executive director of the association, reports that private money has been earmarked to be loaned on the project up to 90 percent of their value. The loans would be at 3½ percent interest and amortized in 30 years.

Congress has passed a bill (H.R. 169) continuing until Jan. 1, 1947, the policy of the federal government paying up to one-half of the cost to state governments for making toll bridges on the Federal-Aid system free crossings. The money will be paid by the Federal Works Administrator out of the regular and secondary Federal-Aid road funds apportioned to each state. The bill continues an arrangement in force for several years.

A bill (H. R. 3477) passed by Congress authorizing the Corps of Engineers to improve the harbor at Savannah, Ga., and to carry out navigation work at Two Harbors, Minn., has been vetoed by President Truman, who objected to the work as not essential to the war.

JOBS OF THE WEEK

APARTMENTS, Los Angeles, Calif.

Myers Brothers, Los Angeles, awarded contract to build apartment buildings, Lincoln Blvd., by Union Housing Plan, Inc., Los Angeles, at $4,000,000 to $5,000,000. Allen & Lutzi, Los Angeles, are architects.

PLANT ADDITIONS, Kearney, N. J.

Turner Construction Co., New York, N. Y., awarded contract to construct a stove building and an examining building at the plant of Congoleum-Nairn, Inc., Kearney, to cost about $2,000,000 with equipment. Albert Kahn Associated Architects and Engineers, Detroit, Mich., will design the buildings and supervise construction.

GLASS FIBER PLANT, Kansas City, Mo.

Austin Company, Cleveland, will alter Blue Valley Plant to manufacture glass fiber for Owens-Corning Fiberglas Corp., Toledo, O. Estimated construction cost is $3,500,000. Defense Plant Corp. will finance.

GLASS FIBER PLANT, Kansas City, Kan.

Austin Company, Cleveland, O., awarded contract to alter Fairfax District Plant for manufacture of glass fiber for Owens-Corning Fiberglas Corp., Toledo, O. to cost $4,000,000. Total with equipment, $8,000,000. Defense Plant Corp. will finance.

ROAD, Bolivia

Compania-McGraw-Warren S. A., New York, N. Y. awarded contract for 250 mile asphalt surfaced all-weather highway connecting Cochaboma and Santa Cruz by Corporacion de Boliviana de Fomento. Est. $9,500,000.

PIPE LINE, Texas and Louisiana

United Gas Pipe Line Co., Shreveport, La., will construct with own forces 143 mile 24 in. steel welded joint pipe line carrier between Carthage, Tex., and Monroe, La. Estimated cost is $7,000,000.

Note—Additional bidding and contract news on many projects large and small, including the above items appear in the Construction News section beginning on page 16.

Flood control and water conservation in Indiana

The Indiana Flood Control and Water Resources Commission, created by the last general assembly of the state, is planning to work closely with federal, state and local governmental agencies in a long-range program to protect the state's water supply and to prevent or lessen flood damage.

The headquarters of the commission in Indianapolis is available for consultation on flood control and water resources problems. The commission is planning to work with the United States Army Corps of Engineers, the United States Geological Survey, the Soil Conservation Service, the Reclamation Bureau, and the flood control committees of Congress in the development of its program. Many phases of Indiana public life—industrial, agricultural, manufacturing, highway, railroad, and health and wildlife conservation, are to be included in a survey to be made of flood control and water resources both within and on the borders of the state.

Members of the commission appointed by Governor Ralph F. Gates include: Asher Gray, county engineer of Wabash County; Prof. Ralph B. Wiley, head of the department of civil engineering, Purdue University; Carl Vogelgesang, chief engineer of the Indiana Highway Department; Joseph L. Quinn, chief sanitary engineer, State Board of Health; and Thomas G. Mackenzie, chief engineer, State Conservation Department.

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Anti-slum commission created for St. Louis

The St. Louis, Mo., Anti-Slum Commission, to plan the abolition of the city's slums and rehabilitation of blighted districts, was created July 9 by Mayor Aloys P. Kaufmann, with James L. Ford, Jr., as chairman. The other members are E. J. Russell, architect, who is chairman of the City Plan Commission, and Harland Bartholomew, city planning specialist, who is consulting engineer for that commission.

Mayor Kaufman said that it is the purpose of the new commission to coordinate plans of private, public and quasi-public agencies and civic organizations in connection with slum clearance and rehabilitation of the city's blighted sections.

Ford was selected to serve as chairman because of his successful leadership in the fight to rid St. Louis of smoke, accomplished in large part through the enactment and enforcement of the 1939 smoke control ordinance.

BRIEF NEWS

The postwar planning and economic development committee of the Texas chapter of the American Society of Civil Engineers at Austin has announced that a survey showed that Texas ranks fourth among the states in construction planned for the postwar period. Planned construction totals $560,000,000 for public and $148,000,000 for private construction, the committee announced. This will include highways, new industries, public buildings, sewerage, water works and similar undertakings.

An extension of the completion time for Ross Dam, Seattle City Light power project on the Skagit River in northwestern Washington, has been granted General-Shea-Morrison, contractors, by the municipal board of public works. The extension to June, 1946, was necessary because of manpower shortages and high employe turnover. Meanwhile, city officials are still pondering the question of removing millions of feet of marketable timber from the Skagit Basin which will be covered by Ross Dam Lake.

In Australia a postwar national works program, involving an expenditure of nearly $630,000,000 has been submitted to the federal and state governments by the Federal Co-ordinator of Works, Sir Harry Brown. Commonwealth and state works to cost about $480,000,000 are proposed together with the expenditure of $143,000,000 on incidental services. Sir Harry Brown suggests the program be financed mainly by new loans and partly by appropriations from revenue, trust funds and special accounts.

The Ohio Welfare Conference has endorsed the 10-year program submitted by the governor's committee on mental health, which proposed spending $36,710,000 in the next two years to expand state facilities for mental patients.

Bridges leave Illinois Central to serve N. C. & St. L.

Abandoned when the Illinois Central tracks were moved to a permanent location on the upstream side of Kentucky Dam, three 306-ft. spans of the old I.C. crossing of the Tennessee River were moved upstream about 78 miles to near Camden, Tenn. At the new location they carry the Nashville, Chattanooga and St. Louis Railroad across the same river, replacing a bridge made unusable by the higher water level of the lake.

The pin-connected trusses were reinforced by a new member LI-U2 and then the 700-ton span lifted by two sets of two barges, fastened together by a common cross-beam under each truss. Barges were placed as near the end of the span as possible and the bridge raised by hydraulic jacks to lift it off the pier. Once clear of the old substructure, the spans were let down to near the barge tops to lower the center of gravity during towing.

The spans were taken endwise through the 600 x 110-ft. lock at Kentucky dam, limited to lengths of about 100 ft. to make this operation possible. Upon arrival at the new location, where piers were built before the reservoir filled, the spans were raised to above pier height, accurately positioned and then lowered to support on the piers.

The work was carried out by the Nashville Bridge Co. under supervision of the Tennessee Valley Authority.

Consolidate N. Y. bridge, tunnel jobs

Consolidation of the operations of the New York City Tunnel Authority and the Triborough Bridge Authority has been begun, according to an announcement made by Robert Moses, head of both agencies. In the initial step, Mr. Moses dispensed with the services of Ole Singstad, chief engineer, and Fearson Shortridge, general manager, whose salaries were $25,000 and $15,000, respectively. Mr. Singstad will be continued as consultant until the end of this year, and Mr. Shortridge until Feb. 15, 1946.

George E. Spargo, an engineer, who is general manager of the Triborough Bridge Authority, has been named to the same position with the Tunnel Authority, and Ralph Smillie, chief engineer of design of the Port of New York Authority, has been named chief engineer of the Tunnel Authority to succeed Mr. Singstad.

The Triborough Bridge Authority built and now operates the Triborough Bridge and the Whitestone Bridge. The New York City Tunnel Authority built and operates the Queens-Midtown Tunnel and before the war began construction of the Brooklyn-Battery Tunnel to connect the lower end of Manhattan Island with the industrial waterfront area in Brooklyn. Recently it announced plans for a vehicle tunnel from Brooklyn to Staten Island.

Mr. Singstad has been chief engineer of the New York City Tunnel Authority since its organization in 1936. He has been connected with under-river tunnel work at New York since 1909 when he began work on the Hudson-Manhattan tubes. He was engineer of design on the Holland Tunnel from 1919 to 1925 when he was named chief engineer to succeed the late Clifford Holland. In addition, he has served as a consultant on most of the vehicle tunnels built in this country and abroad.

Mr. Smillie's tunnel experience began on the Holland Tunnel and continued through the construction of the Lincoln Tunnel, recently completed by the Port Authority.

House approves bridge construction

Last week the House approved eight bills pertaining to the construction of bridges over navigable streams. One bill (S. 233) grants the consent of Congress to the state of North Dakota to construct and operate a free highway bridge across the Missouri River. The site can be located from McLean County to either Mercer County or Oliver County. The House made its consent void unless construction is commenced within two years and completed within four years.

A second bill (S. 234) authorizes the construction of a free highway bridge across the Yellowstone River near Fairview, Mont. The states of North Dakota and Montana, either jointly or individually, are authorized to do the work.

The act creating the St. Lawrence Bridge Commission and authorizing this commission to construct a bridge across the St. Lawrence at Ogdensburg, N. Y., was reenacted by a bill (H.R.476) passed by the House. Original approval for this project was given June 14, 1933.

The time for commencing and completing the construction of a bridge across the Columbia River in Clatsop County, Ore., is extended in a bill (S. 574) approved. The Oregon-Washington Bridge Board of Trustees is authorized to do the work.

Time permitted for completing a bridge across the St. Croix at Hudson, Wis., by the states of Minnesota and Wisconsin is extended in another of the bills (S. 527). Work must begin within one year after the President declares the present war emergency ended.

Still another bill (S. 454) extends the time available for the Arkansas-Mississippi Bridge Commission to start construction of a bridge across the Mississippi near Helena, Ark. Work must begin within one year after the bill becomes law.

The act authorizing the city of Duluth, Minn., to construct a toll bridge across the St. Louis River is reinacted by a bill (H.R. 3150) approved by the House. Construction of this project must be started within two years after the bill becomes law.

Reconstruction of the Spring Common bridge on Mahoning Ave. and spanning the Mahoning River in Youngstown, Ohio, was approved in the eighth bill. This bill (H.R. 3373) requires that the completed structure be toll-free.

All measures identified as Senate bills, that is, those with the letter "S" preceding the number, have been passed by that body. The other bills are now being referred to the Senate.

Research center planned by General Motors Corp.

Construction of a technical center near Detroit, Mich., devoted to industrial research is planned by General Motors Corp. to bring together at one place and at a location physically close to the manufacturing divisions, the research and experimental development facilities of the company.

The various buildings—administration, advanced engineering, research laboratories, process development and styling section—will be grouped around a central esplanade within which will be a 7-acre lake. To be erected as soon as materials are available on a site 1½ mi. long and about ½ mi. wide just outside Detroit, the buildings will be of contemporary functional architecture. Considerable thought was given to area planning and traffic control in laying out the project, particularly with respect to parking, traffic flow and street intersection separation.

Terraces at the second story level are provided to give pedestrians unhampered access to all parts of the buildings and to provide undercover, ground-level parking for vehicles.

The administration building with a frontage of about 1,000 ft. will provide exhibition and office space and an auditorium with 1,200-person seating capacity. Facilities for special product studies will be contained in the 2-story advanced engineering building, which will have 80,000 sq. ft. devoted to engineering and drafting. The research laboratories will constitute one of the largest buildings in the group and will house all the facilities now located in the present research laboratories in Detroit. Composed of 50x70-ft. design studios for full-scale model studies, the styling section will have a frontage of about 850 ft. with a maximum width of about 250 ft. Complete facilities for study and development of production processes and techniques will be incorporated in the process development structure.

Saarinen and Swanson, architects of Birmingham, Mich., are designing the General Motors Technical Center.

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Mississippi River levee district transferred

Transfer of 147 miles of main line Mississippi River levee in Louisiana from the jurisdiction of the New Orleans Engineer District to the Vicksburg, Miss., District, has been announced. The change became effective Aug. 1.

OBITUARY

J. Oris Spencer, 62, former city manager of St. Petersburg, Fla., died in Los Angeles, Calif., July 14. He became city engineer of St. Petersburg in 1914. Later for a time he served as city engineer at Brownsville, Tex. He returned to the Florida city to work out technical details for the Gandy Bridge.

Frank Strohecker, 67, who supervised construction of many major buildings in Los Angeles, Calif., died July 18.

James D. White, 85, a civil engineer for the first main-line railroad to run through the Dakotas and Montana, died July 21 at Cleveland Heights, Ohio. He had also done a number of major engineering jobs in Ohio, including the surveying of the Youngstown street railway.

C. F. Woodyatt, 56, civil engineer, died at Tadoussac, Que., July 19. A graduate of McGill University, he was first employed by the Canadian Pacific Railway Company as location and construction engineer and among other projects he worked on the Halifax union station and harbor construction. He also worked for the highway department of the Province of Ontario.

Maj. Graham J. Barton, Calhoun City, Miss., has been reported killed in an airplane accident in Germany recently. A graduate of Mississippi State College, he had been an engineer for the Mississippi Highway Department before joining the armed forces.

Bennett L. Williams, 43, civil engineer with the Georgia Power Co., died at Americus, Ga., July 15.

Anthony Del Guzzo, 55, of Renton, Wash., widely known Pacific Northwest contractor, died at his home July 17.

Everett B. Murray, 60, president of the E. B. Murray Construction & Engineering Co., and of the Missouri Bank and Trust Co., died at his home in Kansas City, Mo., July 22. Mr. Murray had served two terms as national president of the Building Owners and Managers Association, was a former chairman of the board of directors of the Local Housing Authority of Kansas City, and was a trustee of the Midwest Regional Institute.

William Albert Sparkman, 69, Dade County, Fla. surveyor for many years, died July 22 at Dade City.

Otto K. Phillip and Paul L. Brockway are dead

Two civil engineers, both well known for their work in the public works field, died suddenly last week.

Otto K. Phillip, 55, acting director of public works at Flint, Mich., was drowned July 25 in the Flint River at Flushing, Mich., when a boat in which he was riding capsized.

Mr. Phillip, in company with Louis Ayres, city consulting engineer, was making an inspection trip to determine the amount of pollution caused by sewage discharges. He was pinned under the small boat when it capsized and jammed against an obstruction in the stream. He had been employed by the city since his graduation in engineering in 1917.

Paul L. Brockway, 66, city engineer of Wichita, Kan., for nearly three decades, died July 20.

A graduate of the University of Nebraska in 1904, Mr. Brockway spent three years in railroad engineering and then accepted the post of assistant city engineer at Wichita. In 1917 he was appointed city engineer and continued to serve in that position until January 1, 1943, when he was given the additional title of director of service for the city.

Last June, due to poor health, he asked to be relieved of these two offices, and became city planning engineer—a position he held at his death.

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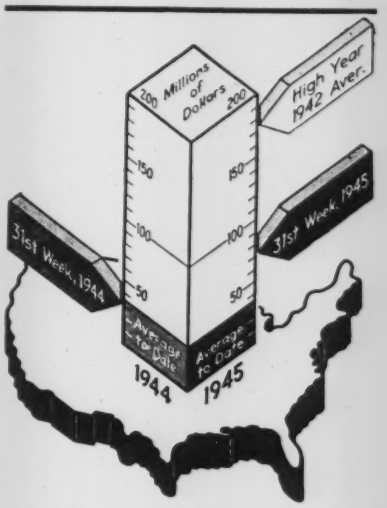
Port and aviation body planned for Cleveland

Establishment of a new municipal Office of Aviation and Port Development, to have virtually the status of an eighth city department, has been recommended by Mayor Thomas A. Burke of Cleveland, Ohio, to the reorganized Port and Harbor Commission of which H. R. Kleppinger, superintendent of special assignments for the American Steel and Wire Co., has been appointed chairman.

The office would have charge of the Cleveland airport, lakefront port and harbor facilities, and Cuyahoga River improvements, responsibilities now scattered in various departments. The proposed ordinance setting up this department, modeled after the New York City port and harbor setup, is being studied by the commission before introduction to the city council.

The department would consist of 15 members of the Port and Harbor Commission, who would recommend appointment of a trained and experienced manager as administrator.

CONSTRUCTION ACTIVITY



As Reported This Week to...
Engineering News-Record

CONTRACT VOLUME

Continental U. S. Only (Thousands of Dollars)

	Week of Aug. 2 1945	Cumulative 1945 (31 wk.)	Cumulative 1944 (31 wk.)
Federal	$32,492	$607,364	$691,002
State & Munic.	12,538	186,156	142,569
Total Public..	$45,030	$793,520	$833,571
Total Private.	31,321	329,970	248,638
U. S. Total...	**$76,351**	**$1,123,490**	**$1,082,209**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Dollar Volume (Thousands)

Type of Work	This Week	Cumulative 1945 (31 wk.)	Cumulative 1944 (31 wk.)
Waterworks	$3,804	$28,916	$18,385
Sewerage	891	17,787	17,633
Bridges	810	20,405	8,416
Highways	9,666	131,305	125,752
Earthwork, Waterways	3,624	27,162	37,022
Buildings, Public.	21,669	373,890	380,091
Industrial	12,634	214,842	109,999
Commercial	10,043	68,884	99,770
Unclassified	13,210	240,299	285,141

NOTE: Minimum size projects included are: Waterworks and waterway projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1945 (31 wk.)	Cumulative 1944 (31 wk.)
NON-FEDERAL	$490,421	$295,880
Corporate Securities.	91,408	85,845
State and Municipal.	235,413	70,575
RFC Loans	24,600	56,460
REA Loans	60,000	20,000
Fed. Aid, Highway ..	79,000	63,000
FEDERAL	$1,014,412	$1,263,800
Total Capital	**$1,504,833**	**$1,559,680**

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost..	July '45	308.99	148.53
Building Cost	July '45	239.64	129.54
Volume	June '45	133	58

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.
ELSIE EAVES, Manager *SCOTT McLEOD, Statistics* *J. A. MAHONEY, Reports*
(Daily service also available—Write for details)

WATER SUPPLY

PROPOSED WORK

Ill., Mattoon—City, 1201 Marshall St., water supply addn., part well and part surface, 10 mi. southwest of here, transmission lines to city, pump. equip., $270,800, approved issuing bonds, two 100 ft. clear wells, approx. 150 ft. piping, $40,000, Wilson & Anderson, 104 Clark St., Champaign, engrs.; exten. water distr. sys., $20,000, J. H. Goetz, 1201 Marshall St., supt. Water Dpt.

Ky., Worthville—Louisville & Nashville R.R. Co., C. H. Blackman, ch. engr., 908 West Bway., Louisville, Zone 1, water supply pump. plant on right bank of Kentucky River, immediately downstream of their bridge, near here.

La., Crowley—Gulf Pub. Serv. Co., J. E. Morrow, mgr., Crowley, water treatment plant, incl. 30x45 ft. stucco bldg. to house system. $75,000.

Mass., Kingston (br. Plymouth)—Town Bd. Water Comrs., Kingston, completing revised plans, and will refigure bids in August, well and pump. station. $15,000. Hayden, Harding & Buchanan, 662 Park Square Bldg., Boston, engrs. CD 6/12—ENR 6/14, under LB.

Okla., Wewoka—City, rebuilding Lake Wewoka dam and raising it 12 ft. $205,000. Bonds voted. W. R. Grace, Wewoka, engr.

Ore., Gearhart—City, E. H. Washbond, recdr., City Hall, reconstructing water distr. sys. and replacing old watermains with c.i. pipe, $40,000. R. H. Corey, Corbett Bldg., Portland, engr.

Ore., Hillsboro—City, City Hall, replacing 1 mi. 12 in. watermain with 18 in. pipe, $35,000. J. Barney, City Hall, city engr.

Ore., The Dalles—Orchard Irrigation Co-Operative, The Dalles, wells and six pump. plants irrigating 3,000 acres, $300,000. G. C. Arrowsmith, c/o owner, engr. CD 5/24—ENR 5/31.

Pa., Corry—Corry Water Supply Co., Corry, addnl. wells for water supply, installing elec. pump. equip., etc. Over $25,000.

Pa., Devon—Phila. Suburban Water Co., Bryn Mawr, booster pump. plant bldg. $40,000.

Tex., Amarillo—City, c/o A. P. Hancock, mgr., City Hall, making plans WW imprvs., incl. distr. sys., and elevated tank, $250,000. Freese & Nichols, Capps Bldg., Fort Worth, engrs.

†Tex., Kingsville—J. A. Cypher, mayor, WW imprvs., Tex. 41-729. $35,000. **FWA.** Peurifoy & Patterson, Kingsville, engrs. CD 6/7—ENR 6/14.

Tex., Rockwall—J. Briggs, mayor, City Hall, preliminary plans WW imprvs., incl. imprv. distr. sys. $35,000. Freese & Nichols, Capps Bldg., Fort Worth, engrs.

†Utah, Ogden—Federal Works Agency, 18 and F Sts. N.W., Wash. 25, D. C., 15,100 lin. ft. 6 and 12 in. watermain from Folk Canyon Rd. to depot, incl. necessary valves, hydrants, etc. $76,000. **FWA.**

Wis., Park Falls—City, D. Mason, clk., City Hall, well, pump, pump house. $20,000.

Man., West St. Paul (Postal Dist. Winnipeg)—Dom. Govt., Ottawa, Ont., watermains and domestic service connections. $25,000. Dpt. Veterans Affairs, Dominion Bldg., Winnipeg, engrs.

Que., Muskinonge—Municipality, c/o A. Lemyre, Muskinonge, 20,000 gal. wood reservoir on 50 ft. trestle, 15,460 ft. 2- to 4-in. steel pipe. R. Morrissette, 15 Longval St., Cap de la Madeleine, engr.

Sask., Battleford — Municipality, exten. water sys. $50,000.

Sask., Beechy—Municipality, imprv. water supply sys.

Sask., Bienfait—Municipality, installing water sys. $25,000. Dpt. P. Wks., Regina, engr.

Sask., Cabri—Municipality, water supply sys. $64,606.

Sask., Eastend—Municipality, water sys. $30,000.

Sask., Estevan — Municipality, watermains, $20,000.

Sask., Lumsden — Municipality, exten. WW. $35,000.

Sask., Markinch—Municipality, reservoir. $25,000.

Location of ENR Correspondents

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Name in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED: (except Streets & Roads); BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR);

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Sask., Moosomin — Municipality, WW. $112,000. Dpt. Pub. Wks., Regina, engrs.

Sask., Prince Albert—Municipality, exten. watermains, water pumps, chlorinator, $84,000.

Sask., Rockglen—Municipality, water sys. $15,000.

Sask., Rosetown — Municipality, water sys. $30,000.

Sask., Sutherland—Municipality, modernizing watermains. $23,000.

Sask., Turtleford—Municipality, water sys. $15,000.

Sask., Yellow Grass—Municipality, replacing watermains, $27,000.

BIDS ASKED

Bids Asked August 6

Alta., Grande Prairie—A. H. McKee, secy. Dpt. Transport, Ottawa, Ont., WW plant, for Dom. Govt., Ottawa, Ont. $20,000. Plans deposit $10.

Bids Asked August 9

La., New Orleans—City Purchasing Div., City Hall, laying subsurface drainage, closing existing gutters, etc., on St. Andrew from Prytania to Magazine St., Pro. 5074.

Bids Asked August 15

Mass., Marblehead—Town, Town Hall, furnishing, laying c.i. mains in Evans and Coolidge Rds. Over $15,000.

Pa., Scranton—Scranton-Spring Brook Water Service Co., 135 Jefferson Ave., imprv. Marshwood Dam, Olyphant. Plans deposit $5. Thos. H. Wiggin, 50 Broad St., New York, N. Y., consult. engr.; adv. ENR 8/2.

Que., Montreal—Executive Committee, City Hall, reconstructing McTavis Reservoir, for Municipality, J. A. Mongeau, city clk. Over $100,000. P. Wks. Dpt., 3161 Joseph St., Verdun, engr. Plans deposit $100. CD 2/22—ENR 3/8 under Postwar Projects.

Bids Asked August 17

Kan., Coffeyville—City, L. Saunders, clk. City Hall, WW imprvs. Bids 7/6 rejected. Black & Veatch, 4706 Bway., Kansas City, Mo., engrs. CD 6/28—ENR 7/5.

Wash., Euphrata—Myrtle Peed, town clk., City Hall, 1 m.g. concrete tank reservoir and interconnecting c.i. and cement asbestos pipelines. $72,000. Plans deposit $10. Parker & Hill, Smith Tower, 2 Ave. and Yesler Way, Seattle, Zone 4, engrs. CD 3/13—ENR 3/16.

Bids Asked August 18

O. Lockland—W. E. Hotze, dir. Pub. Serv., City Hall, furnishing, laying 36,000 ft. more or less 8-to-16-in. Class 100 or Class 150 centrifugal c.i. water pipe, valves, fittings, various locations. Plans deposit $25. A. LeFeber, 731 Temple Bar Bldg., Cincinnati, consult. engr.; adv. ENR 8/2.

Bids Asked August 21

†Ga., Valdosta—City, City Hall, general imprvs., extens. to city WW sys. $60,000. **FWA.** Smith & Gillespie, Roberts Bldg., Jacksonville, Fla., engrs. CD 5/23—ENR 5/31.

Bids Asked August 23

O., Cleveland—Bd. Comrs. Cuyahoga Co., New Court House, water mains in Oakes and Brecksville Rds., in Brecksville, providing facilities for B. F. Goodrich laboratory, $17,300. J. O. McWilliams, Standard Bldg., co. engr.

†Tex., Sweetwater—City, R. C. Hoppe, mgr., City Hall, Contr. 1, centrifugal pump unit and installation, Tex. 41-711-N, $25,000. **FWA.** Plans deposit $15. H. N. Roberts, Lubbock, engr. CD 6/29—ENR 7/5.

LOW BIDDERS

†Calif., Shoemaker—Bureau of Yards & Docks Annex, Navy Dpt., Arlington, Va., addnl. water storage tanks, appurtenances at Receiving Barracks and Well Field area, Camp Shoemaker, U. S. Naval Training and Distribution Center, Spec. 15401, NOY 11052, from M. J. King, Inc., 231 Franklin St., San Francisco, **$169,616.**

Me., Pownal—State, H. C. Greenleaf, comr. Institution, State House, Augusta, enlarging reservoir, State School, from Stewart & Williams, Inc., 185 Water St., Augusta. **$22,485.** CD 7/18.

Tex., Corpus Christi—City, R. Self, mayor, July 20, Savage Lane pump. sta. extens., from Brown & Root, Inc., Corpus Christi, **$78,220.** Myers & Noyes, Jones Bldg., engr.

Tex., Frankston—City, City Hall, July 18, water imprvs., from W. N. Christian, P.O. Box 712, Killeen, **$23,300.** CD 6/6—ENR 6/14.

CONTRACTS AWARDED

★**†Calif., San Diego**—Bureau of Yards & Docks Annex, Navy Dpt., Arlington, Va., constructing portion concrete pipeline San Diego Aqueduct Spec. 16781, NOY 12575, to Concrete Pipeline Constructors, (Grafe-Callahan Const. Co., Gunther & Shirley, Gibbons & Reed Co., and Condon-Cunningham Co.), 714 W. Olympic Blvd., Los Angeles, **$2,248,409.** Bids 7/6. CD 7/10, under LB.

Ga., Hogansville—City, City Hall, pump. station addn., filter plant, to S. B. Slack, Decatur, **$27,750.** Wiedeman & Singleton, Candler Bldg., Atlanta, engrs.

Mo., Slater—City, water storage tank, to Chicago Bridge & Iron Co., 1305 W. 105 St., Chicago, Ill. **$16,880.** R. R. Howard, city engr.

†O., Toledo—U. S. Eng., 522 U. S. Post Office & Courthouse Bldg., Cincinnati, Zone 1, water tank, Rossford Ordnance Depot, Contr. W-33-015-eng-1017, to Mosser Constr. Co., Fremont. Est. **$20,109.**

†Pa., Chambersburg—U. S. Eng., Standard Oil Bldg., Baltimore, Md., reservoir, Letterkenny Ordnance Depot, Contr. W-18-020-eng-904, to Moyer Bros., 2605 Beale Ave., Altoona, **$45,864.**